

Application serial No. 10/720,067
Examiner: Krishnan S Menon
Art Unit: 1723

Applicant: Chikaroku Yamashita
Docket: SAM-USI4

REMARKS**Present Status of the Application**

Claims 8-12 are pending in the present application of which claims 8 and 12 have been amended to more clearly describe the claimed invention. Furthermore, Applicant has also amended the specification to correct some minor informality. It is believed that no new matter adds or raise new issues by way of amendments to claims, or otherwise to the application.

For at least the following reasons, Applicant respectfully submits that claims 8-12 are in proper condition for allowance and reconsideration of this application is respectfully requested.

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The Objections

1. The Office Action objected to the disclosure because of the following informalities: the specification refers to claim numbers at several places. The original claims were canceled. The subject matter in the allowed claim(s), if when allowed, may not be in agreement with claim numbers referred to, which would render the specification non-compliant to 35 U.S.C. 112, first paragraph. Appropriate correction is required.

In response thereto, Applicant would like to thank the Examiner for pointing out the informality and accordingly amended the specification as above. Reconsideration is respectfully requested.

2. The Office Action objected to claims 8-12 because of the following informalities: the drainpipe is being claimed to be connected to the gas supply device, which is believed to be an error. The specification describes the gas supply device is connected the "deflate pipe". Appropriate correction is required.

In response thereto, Applicant would like to thank the Examiner for pointing out the informality and accordingly amended claims 8 and 12. Reconsideration is respectfully requested.

The Rejections

1. The Office Action rejected claims 8-12 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In response thereto, Applicant would like to thank the Examiner for pointing out the informalities and accordingly amended claim 8 to recite "an upper surface of said

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micro filter device is tilted at an angle towards a wastewater inflow side of the solid and liquid separator", and also amended claim 12 to recite "said surface of said micro filter device which comes in contact with said gas ejected from said deflate pipe faces a opposite direction to a surface of said filter device adjacent to it". Reconsideration is respectfully requested.

2. The Office Action rejected claims 8-10 and 12 under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (US-5,451,317, hereinafter Ishida).

In rejecting the above claims, the Examiner stated that since no criticality given for the tilt angle, it is considered to be a minor change in the shape, and is not given any patentable weight. Accordingly, Applicant has amended claim 8 to recite "a micro filter device, disposed on said filter device such that an upper surface of said micro filter device is tilted at an angle towards a wastewater inflow side of the solid and liquid separator to facilitate convectional flow of the wastewater at the wastewater inflow side, wherein said micro filter device is a plate filter", and thereby including the critical limitation to the tilted surface of the micro filter device. This feature is being described at paragraph starting at line 2 of page 5 of the specification.

Thus, Applicant respectfully submits that Ishida at least lacks a micro filter device, disposed on said filter device such that an upper surface of said micro filter device is tilted at an angle towards a wastewater inflow side of the solid and liquid separator to facilitate convectional flow of the wastewater at the wastewater inflow side, wherein said micro filter device is a plate filter of the claimed invention as claimed in the amended proposed independent claim 8. Accordingly, Applicant respectfully

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submits that Ishida cannot possibly anticipate the newly added proposed independent claim 8 in this regard.

Claims 9-10 and 12, which directly or indirectly depend from the proposed independent claim 8, are also patentable over Ishida for at least their dependency from an allowable base claim.

For at least the foregoing reasons, Applicant respectfully submits that claims 8-10 and 12 patently define over Ishida and therefore should be allowed. Reconsideration and withdrawal of these rejections is respectfully requested.

3. The Office Action rejected claims 8-10 and 12 under 35 U.S.C. 103(a) as being unpatentable over Ookata et al. (US-6,284,135, hereinafter Ookata).

Applicant respectfully disagrees and traverses the above rejections as set forth below.

The present invention is generally directed to a filter system for treating high concentration wastewater. The proposed independent claim 8, among other things, recites at least [a micro filter device, disposed on said filter device such that an upper surface of said micro filter device is tilted at an angle towards a wastewater inflow side of the solid and liquid separator to facilitate convectional flow of the wastewater at the wastewater inflow side, wherein said micro filter device is a plate filter]. The advantage of the above feature is that the gas ejected from the drain pipe disposed at the bottom of the micro filter device coming in contact with the tilted surface of the micro filter device may provide a better circulation of the high concentration wastewater on the inflow side so that at least blockage of the filter device may be effectively reduced.

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Applicant respectfully submits that the amended proposed claim 8 is allowable over Ookata because Ookata substantially fails to teach or disclose each and every features of the claimed invention. More specifically, Ookata substantially fails to teach or disclose a filter system for treating high concentration wastewater comprising at least [a micro filter device, disposed on said filter device such that an upper surface of said micro filter device is tilted at an angle towards a wastewater inflow side of the solid and liquid separator to facilitate convectional flow of the wastewater at the wastewater inflow side, wherein said micro filter device is a plate filter] as required by the amended proposed independent claim 8. Instead, and also as the Examiner recognized, Ookata substantially teaches or discloses a tubular filter. Thus, it is clearly evident that Ookata fails to teach or disclose a micro filter device, disposed on said filter device such that an upper surface of said micro filter device is tilted at an angle towards a wastewater inflow side of the solid and liquid separator to facilitate convectional flow of the wastewater at the wastewater inflow side, wherein said micro filter device is a plate filter as claimed in the amended proposed independent claim 8. Accordingly, Applicant respectfully submits that Ookata cannot meet the amended proposed independent claim 8 in this regard.

Claims 9-10 and 12, which directly or indirectly depend from the proposed independent claim 8, are also patentable over Ookata for at least their dependency from an allowable base claim.

For at least the foregoing reasons, Applicant respectfully submits that claims 8-10 and 12 patently define over Ookata and therefore should be allowed. Reconsideration and withdrawal of these rejections is respectfully requested.

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4. The Office Action rejected claims 8-10 and 12 under 35 U.S.C. 103(a) as being unpatentable over Eades et al. (US-6,890,431, hereinafter Eades).

Applicant respectfully disagrees and respectfully submits that Eades substantially discloses or teaches that lamella plates 45, tubes 45' or an immersed membrane module 45" may be added to the flotation cell to hasten the separation process as shown in FIG. 2, FIG. 3 and FIG. 4 respectively (please see FIG. 2, 3 and 4, and col. 2, lines 30-34). In other words, Eades does not intend to use the lamella plates 45, tubes 45' or other coalescing surfaces for facilitating convectional flow of the wastewater on the inlet flow side of the solid and liquid separator, instead Eades substantially teaches that the lamella plates 45 or tubes 45' may be used for serving as coalescing surface, and the immersed membrane modules 45" may be used to filter the solids, and thereby improve the separation of the buoyant flocs. Besides, Eades substantially teaches that the surfaces of lamella plates, as shown in FIG. 2, are substantially tilted away from the inflow side of the solid and liquid separator, while the surfaces of the tubes 45' or immersed membrane modules 45" are substantially positioned vertical to the inflow side of the inflow side of the solid and liquid separator, and Eades never mentioned that the lamella plates 45, tubes 45' or membrane modules 45" may be used for facilitating convectional flow of the wastewater on the inflow side of the solid and liquid separator.

Thus, Applicant respectfully submits that Eades substantially fails to teach, suggest or disclose at least "a micro filter device, disposed on said filter device such that an upper surface of said micro filter device is tilted at an angle towards a wastewater inflow side of the solid and liquid separator to facilitate convectional flow of the wastewater at the wastewater inflow side, wherein said micro filter device is a plate

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filter", as required by the amended proposed independent claim 8 in this regard, and therefore should be allowed.

Claims 9-10 and 12, which directly or indirectly depend from the proposed independent claim 8, are also patentable over Ishida for at least their dependency from an allowable base claim.

For at least the foregoing reasons, Applicant respectfully submits that claims 8-10 and 12 patently define over Ishida and therefore should be allowed. Reconsideration and withdrawal of these rejections is respectfully requested.

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CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 8-12 of the present application are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted

✓ YAMASHITA Chikaroku
Date: July/26/2006
Chikaroku Yamashita
First Inventor
SUIKENKIKOU CO., LTD.
P.O. BOX 1-195
YUNG HO CITY
Taiwan
Tel: +886-2-2924-9341
Fax: +886-2-2924-0700
E-mail: wu@toapatent.com